

**UNCHANGED CLAIM 19:**

19. The process of claim 13, wherein the positioning causes the first end face to be located in the sample and the second face to be located outside the sample.

**REWRITE CLAIM 20 AS:**

20. (Once amended) The process of claim 14, wherein the measuring includes determining the values of the quantity for light whose wavelength is shorter than the wavelength of the transmitted light.

**REMARKS**

For example, Figures 1A and 1E support the amendment to claim 1.

For example, Figure 1E supports the amendment to claim 2.

The amendments to claims 3 and 7 correct obvious grammar errors.

For example, Figure 3 supports the amendment to claim 8.

For example, Figures 1A-1E support the amendment to claim 13.

The amendment to claim 20 provides antecedent basis for "quantity" by making claim 20 depend on claim 14, which depends on claim 13.

**NO FEE DUE.**

In the event of any non-payment or improper payment of a required fee, the Commissioner is authorized to charge or to credit **Lucent Technologies Deposit Account No. 12-2325** to correct the error.

Respectfully submitted,



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## MARKED UP AMENDMENTS

1. (Once amended) An apparatus, comprising:
  - a non-fiber ~~an~~ optical element having a first optical aperture;
  - an endoscopic probe having first and second ends, the probe comprising a GRIN lens configured to carry illumination light over at least a distance about as long as the length of the probe ~~having first and second ends~~, the first end being positioned to receive the illumination light from the first optical aperture; and
  - a detector configured to measure values of a characteristic of light emitted from the first end in response to multi-photon absorption events produced by the illumination light in a sample illuminated by light from the second end, the detector configured to produce an output signal for a multi-photon image of the sample.
2. (Once amended) The apparatus of claim 1, wherein the probe further comprises a prism connected to an end of the GRIN lens ~~is 1-centimeter long or longer.~~
3. (Once amended) The apparatus of claim 2, wherein the GRIN lens has pitch length of about one or ~~of~~ more.
7. (Once amended) The apparatus of claim 1, wherein the GRIN lens further comprises:
  - a relay GRIN lens; and
  - an objective GRIN lens being serially coupled to one end of the relay GRIN lens; and
  - a ~~an~~ coupling GRIN lens being serially coupled to an opposite end of the relay GRIN lens as the objective GRIN lens; and
  - wherein the objective GRIN lens and the coupling GRIN lens have shorter pitches than the relay GRIN lens.
8. (Once amended) The apparatus of claim 7, further comprising:
  - a pulsed laser; and

wherein the GRIN lens and optical element are configured to deliver source light from the pulsed laser to the sample without the source light propagating in single mode optical fiber ~~pitch of the objective GRIN lens is at least five times shorter than the pitch of the relay GRIN lens.~~

13. (Once amended) A process for scanning a region of a sample with a probe having a GRIN lens with first and second end faces, comprising:

positioning ~~a~~ the first end face of the ~~a~~ GRIN lens near the region of the sample;

transmitting light to the ~~a~~ second end face of the GRIN lens, the length of the GRIN lens being at least about as long as the length of the probe; and

scanning one of an incidence position and an incidence angle of the light on the second end face of the GRIN lens while performing the transmitting to generate a scan of the region of the sample.

20. (Once amended) The process of claim ~~14~~ 13, wherein the measuring includes determining the values of the quantity for light whose wavelength is shorter than the wavelength of the transmitted light.